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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/661,986	09/14/2000	Harold Rosen	pd-2000083	8909

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PATENT DOCKET ADMINISTRATION RE/R11/A109
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EXAMINER

LY, NGHI H

ART UNIT

PAPER NUMBER

2686

DATE MAILED: 06/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/661,986

Applicant(s)

ROSEN ET AL.

Examiner

Nghi H. Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-15 and 17-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-15 and 17-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/26/2005 has been entered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 23 and 24 are indefinite since they depend on a cancelled claim (claim 22 has been cancelled).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 4-15 and 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Perahia et al (US 6,188,896) in view of Durvasula et al (US 6,137,451).

Regarding claim 1, Perahia teaches a method of preventing interference in a communication system (see column 2, lines 58-61 and see column 4, lines 29-33) comprising, the steps of: generating a fixed reuse pattern in a service area from a high altitude communications device (see fig.6), the pattern having a plurality of first resource cell and a second resource cell (also see fig.6) and reshaping the antenna surface (see column 5, lines 21-25, column 8, lines 16-20 and see column 12, lines 46-48).

Perahia does not specifically disclose the pattern having a plurality of first resource cell and a second resource cell having a resource different than the plurality of

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the first resource cells, selectively suppressing a side lobe of a first beam having a first resource by selectively reshaping the antenna surface at interference locations and maintaining a shape of the antenna in non-interference locations to form a suppressed portion and a non-suppressed portion so that the non-suppressed portion of the first beam aligns with other beams having the second resource cell and a side lobe suppressed portion aligns with the first resource.

Durvasula teaches the pattern having a plurality of first resource cell and a second resource cell having a resource different than the plurality of the first resource cells (see fig.1, footprints 40 and 44 and column 4, line 66 to column 5, line 5, see *"the feeds 30 and 32 are at the same frequency or at different frequencies, as well as at the same polarization or at different polarizations"*). In addition, Application specification page 2, lines 10-11, disclose *"beam having different system resources such as frequencies or polarizations"*), selectively suppressing a side lobe of a first beam having a first resource (see fig.5, beam 38 and beam 42) by selectively reshaping the antenna surface (column 2, lines 9-13, see *"the reflector has been shaped specifically for coverage"* and column 2, lines 13-30, see *"the reflector is reshaped to suppress"*) at interference locations (column 1, lines 39-52, see *"primary beam may interfere with the propagation of signals from the main lobe of the secondary beam"*). In Durvasula, the interference locations are formed when two beams are interfered with each other) and maintaining a shape of the antenna in non-interference locations to form a suppressed portion and a non-suppressed portion (the teaching of Durvasula teaches sidelobe of only one beam is suppressed, the other is not, in addition, see fig.1, regions 40 and 44)

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so that the non-suppressed portion of the first beam aligns with other beams having the second resource cell and a side lobe suppressed portion aligns with the first resource (column 2, lines 9-13, see "*the reflector has been shaped specifically for coverage*" and column 2, lines 13-30, see "*the reflector is reshaped to suppress*". The teaching of Durvasula inherently teaches that after the reflector is reshaped, the non-suppressed portion will align with the second resource cell and side lobe suppressed portion will align with the first resource cell. In addition, see fig.1, regions 40 and 44, and beams 30 and 32).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the teaching of Durvasula into the system of Perahia in order to reduce interference.

Regarding claim 4, Perahia further teaches the first resource and the second resource comprise a frequency (see column 4, lines 43-46, "frequency reuse").

Regarding claim 5, the combination of Perahia and Durvasula does not specifically disclose the first resource and the second resource comprise polarization.

However, polarization reuse is commonly used for resource reuse and therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to design a system so the first resource and the second resource comprise polarization.

Regarding claim 6, the combination of Perahia and Durvasula does not specifically disclose the first resource and the second resource comprise an orthogonal code. However, orthogonal code reuse is commonly used in CDMA system for

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resource reuse and therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to design a system so the first resource and the second resource comprise an orthogonal code.

Regarding claim 7, Perahia further teaches the high altitude communication device comprises a satellite (see fig.6).

Regarding claim 8, Perahia further teaches the high altitude communication device comprises a stratospheric platform (see fig.6, it is inherent that in the satellite-based system of Parahia include the system of stratospheric platform).

Regarding claim 9, claim 9 is rejected with a similar reason as set forth in claim 1 above.

Regarding claim 10, claim 10 is rejected with a similar reason as set forth in claim 7 above.

Regarding claim 11, claim 11 is rejected with a similar reason as set forth in claim 8 above.

Regarding claim 12, claim 12 is rejected with a similar reason as set forth in claim 4 above.

Regarding claim 13, claim 13 is rejected with a similar reason as set forth in claim 5 above.

Regarding claim 14, claim 14 is rejected with a similar reason as set forth in claim 6 above.

Regarding claim 15, claim 15 is rejected with a similar reason as set forth in claim 1 above.

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Regarding claim 17, claim 17 is rejected with a similar reason as set forth in claim 1 above.

Regarding claim 18, claim 18 is rejected with a similar reason as set forth in claim 4 above.

Regarding claim 19, claim 19 is rejected with a similar reason as set forth in claim 5 above.

Regarding claim 20, claim 20 is rejected with a similar reason as set forth in claim 6 above.

Regarding claim 21, claim 21 is rejected with a similar reason as set forth in claim 1 above.

Response to Arguments

6. Applicant's arguments filed 04/26/2005 have been fully considered but they are not persuasive.

On page 6 of Applicant's remarks, Applicant argues that Durvasula does not teach a non-interfering beams is present and thus no unsuppressed portions of the beam are described.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "a non-interfering beams") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are

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not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

On pages 6, 7 and 8 of Applicant's remarks, Applicant argues that Durvasula does not teach selectively suppressing a side lobe of a beam having a first resource by selectively reshaping the antenna surface at interference locations and maintaining a shape of the antenna in non-interference locations to form a suppressed portion and a non-suppressed portion so that the non-suppressed portion aligns with the second resource cell and a side lobe suppressed portion aligns with the first resource cell.

The Examiner, however, disagrees. Durvasula indeed teaches selectively suppressing a side lobe of a beam having a first resource by selectively reshaping the antenna surface (column 2, lines 24-27, see "*the reflector is shaped to suppress primary-beam sidelobes*" and "*the reflector is specially shaped with a surface contour which directs lobes of the primary beam in directions away from the axis of the secondary beam*"). That is, only the primary-beam's sidelobes is selected (not the other) and it reads on applicant's "selectively suppressing") at interference locations (column 1, lines 39-52, see "*primary beam may interfere with the propagation of signals from the main lobe of the secondary beam*"). In Durvasula, the interference locations are formed when two beams are interfered with each other) and maintaining a shape of the antenna in non-interference locations to form a suppressed portion and a non-suppressed portion (column 2, lines 24-27, see "*the reflector is shaped to suppress primary-beam sidelobes*" and "*the reflector is specially shaped with a surface contour which directs lobes of the primary beam in directions away from the axis of the*

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secondary beam". That is, only the primary-beam's sidelobes is selected (not the other) so that the non-suppressed portion aligns with the second resource cell and a side lobe suppressed portion aligns with the first resource cell (column 2, lines 9-13, see "the reflector has been shaped specifically for coverage" and column 2, lines 13-30, see "the reflector is reshaped to suppress". The teaching of Durvasula inherently teaches that after the reflector is reshaped, the non-suppressed portion will align with the second resource cell and side lobe suppressed portion will align with the first resource cell. In addition, see fig.1, regions 40 and 44, and beams 30 and 32).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (571) 272-7911. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on (571) 272-7905. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghi H. Ly

NH Ly
06/20/05

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